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THE

ONTARIO WATER RESOURCES

COMMISSION

WATER POLLUTION SURVEY

of the

COMMUNITIES OF ANSONVILLE AND MONTROCK

TOWNSHIP OF CALVERT

COMMUNITIES OF ANSONVILLE & MONTROCK  
(TOWNSHIP OF CALVERT) 1967

1967

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Report on a water pollution  
survey of the communities of  
Ansonville and Montrock,  
township of Calvert.

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Report

on a

Water Pollution Survey

of the

COMMUNITIES OF ANSONVILLE AND MONTROCK

TOWNSHIP OF CALVERT

District of Cochrane

May, 1967

The Division of Sanitary Engineering

## INDEX

<u>SECTION</u>	<u>PAGE NO.</u>
INTRODUCTION	1
I GENERAL INFORMATION	1
II WATER USES	2
1. Municipal	2
2. Recreational	2
III WATER POLLUTION	3
1. Sanitary Waste Disposal	3
(a) Existing Conditions	3
(b) Proposed Water Pollution Control Facilities	3
2. Discussion of Sample Analyses	4
IV REFUSE DISPOSAL	5
V SUMMARY AND CONCLUSIONS	6
VI RECOMMENDATIONS	6
APPENDIX	
TABLE	
MAP	

# THE ONTARIO WATER RESOURCES COMMISSION

## R E P O R T

### INTRODUCTION

A water pollution survey was made of the communities of Ansonville and Montrock on September 23, 1966. The purpose of the survey was to locate and record all significant sources of water pollution within the communities. Such surveys are performed routinely, and upon request, by the Ontario Water Resources Commission as a basis for evaluating all existing and potential sources of pollution. When sources of pollution are found, corrective action is requested by the Commission. Where water-supply and/or pollution-control works appear desirable or extensions to present facilities are necessary, the Commission has a programme to aid in the construction and financing of these works.

The information received from the township officials is gratefully acknowledged.

### I GENERAL INFORMATION

The communities of Ansonville and Montrock are located in the Township of Calvert in the District of Cochrane. The township had a 1966 assessed population of 5,267 (1967 Municipal Directory) with Ansonville having a population of 3,039 and Montrock 900.

The two communities are situated 8 miles northeast of the junction of highways No. 67 and 11 on Highway No. 67. Ansonville borders the Town of Iroquois Falls on the south while Montrock borders

Iroquois Falls on the west. A general overburden of clay persists in both communities, with the land in the Ansonville area gently sloping towards the Abitibi River. In the Montrock area the terrain becomes slightly hilly and drops sharply to the Abitibi River. Surface drainage is to the Abitibi River.

With the communities being adjacent to the Town of Iroquois Falls, where the Abitibi Paper Mill is located, the communities basically rely on the mill for their economy. There are no industries in the communities.

## II WATER USES

### 1. Municipal

Water is supplied to Ansonville and Montrock by the Abitibi Power and Paper Company in Iroquois Falls. The water is completely treated by coagulation, sedimentation, filtration and chlorination prior to being delivered to the distribution system. Approximately 126 million gallons, or an average of 0.345 mgd, were pumped to the 1,100 services in the Ansonville and Montrock areas in 1965.

### 2. Recreational

There are no public beaches within the communities of Ansonville and Montrock. The Abitibi River is principally used for fishing.

### III WATER POLLUTION

#### 1. Sanitary Waste Disposal

(a) Existing Conditions - Approximately half of the community of Ansonville is serviced by a separate sewer system and the remaining by a combined system. Sanitary wastes are directed via one collector sewer to the Abitibi Paper Mill where industrial wastes from the ground-wood mill are also discharged to the sewer. The untreated sanitary and industrial wastes are then discharged to the Abitibi River.

The community of Montrock is completely serviced by a separate sewer system. Raw sanitary wastes are discharged via one collector sewer to the Abitibi River. This sanitary sewer traverses the northwest portion of the Town of Iroquois Falls where domestic wastes also enter the sewer. Storm drainage is provided by storm sewers and drainage ditches which outfall to the Abitibi River.

(b) Proposed Water Pollution Control Facilities - The Ontario Water Resources Commission has received a resolution of council from the Town of Iroquois Falls requesting the development of a Provincially financed sewage works programme. Since the Township of Calvert was experiencing the same sewage disposal problems as Iroquois Falls, the township was requested by the Commission to consider a sewage works programme in conjunction with that of Iroquois Falls. An application was received from the township; however, there was no resolution of council included in the submission.



The township has indicated that it intends to make application to the Ontario Municipal Board for annexation of Iroquois Falls. Reportedly, no further action would be taken by the township on a sewage works programme until its request for the annexation was considered by the Ontario Municipal Board.

## 2. Discussion of Sample Analyses

The laboratory results of the bacteriological examinations and chemical analyses of samples collected from the outfalls and water-courses are included in the table appended to this report. A description of the significance of the laboratory tests and water-quality objectives is also appended.

Two storm sewer outfalls located on the south side of Marion Street between Second and Third avenues in Ansonville were sampled and the results show that contaminants were gaining access to the storm sewers at the time. Both samples revealed coliform organisms in the effluents with faecal coliforms in one sample. Chemical analyses showed that detergents were present in the same sample, which would indicate domestic wastes.

A sample collected from the storm sewer located south of Teefy Street and west of Radio Street revealed that pollutants were gaining access to this storm sewer. An exceptionally high coliform count was revealed, indicating faecal pollution. Chemical analyses showed that detergents were also present in the discharge.

Two storm sewer outfalls were sampled in the community of Montrock. The effluent from the outfall located at the west end of Fourth Street at Second Avenue showed that pollutants were reaching the storm sewer. The high coliform count and the presence of detergents in the discharge reveal that domestic wastes are gaining access to the storm sewers.

Sanitary wastes from the communities of Ansonville and Montrock are discharged without treatment to the Abitibi River through outfall sewers located in the Town of Iroquois Falls. The analytical results of samples collected from these sewers are shown in the appended table.

The overall effect of raw sewage discharged to the Abitibi River from the Township of Calvert and also the Town of Iroquois Falls is shown by the deterioration of the bacteriological quality of the water downstream from the sanitary sewer outfalls. The upstream sample indicated the quality of the water to be satisfactory with the coliform count well within the OWRC objective. This reflects the importance of instituting a sewage works programme.

#### IV REFUSE DISPOSAL

The refuse disposal site is located on Lot 1, Concession 5, in the Township of Calvert. A burn and cover type of operation is used and no water pollution problems exist as a result of the operation.

The Town of Iroquois Falls also uses this site.

## V SUMMARY AND CONCLUSIONS

A study of water pollution in the communities of Ansonville and Montrock was conducted on September 23, 1966.

Domestic water for the communities is supplied by the Abitibi Power and Paper Company water works located in Iroquois Falls.

Ansonville is served by separate and combined sewer systems while Montrock has a separate sewer system. Raw sanitary wastes are discharged directly to the Abitibi River. No sewage treatment is provided.

Sampling of the storm sewer outfalls within the communities has revealed that contaminating wastes are gaining access to the storm sewer systems. Although at present no treatment is provided for domestic wastes, the sanitary connections to the storm sewers should be eliminated.

The discharge of polluting wastes to a watercourse is a contravention of The Ontario Water Resources Commission Act, and remedial action should be taken by the township to eliminate such discharges to the Abitibi River by instituting a water pollution control programme.

## VI RECOMMENDATIONS

1. The Township of Calvert should initiate a water pollution control programme in conjunction with that of the Town of Iroquois Falls.

2. The township should locate and eliminate all sources of polluting wastes presently reaching the municipal storm sewers.

/elc

Prepared by:

A handwritten signature in dark ink, appearing to read 'G.K. Boretski', is written over a horizontal line.

G.K. Boretski,  
Civil Technologist,  
Div. of Sanitary Engineering.

## APPENDIX

## WATER QUALITY AND EFFLUENT OBJECTIVES

The OWRC objectives for surface waters in Ontario are as follows:

5-Day BOD - not greater than 4 ppm

Total Coliform Count - not greater than 2,400  
coliforms per 100 c.c.

Phenolic Equivalents - average - not greater than 2 ppb  
maximum - not greater than 5 ppb

**pH Range** - 6.7 to 8.5

A few pertinent maximum limits of contaminants in storm sewers, sewage treatment plant and industrial waste effluents are listed below. Adequate protection for surface waters, except in certain specific instances influenced by local conditions, should be provided if the concentrations and pH range are not exceeded.

5-Day BOD - not greater than 15 ppm

Suspended Solids : not greater than 15 ppm

Phenols - not greater than 20 ppb

pH = 5.5 to 10.6

Iron - not greater than 17 ppm

Ether Solubles (oil) - not greater than 15 ppm

## GLOSSARY OF TERMS

Bacteriological Examinations - The Most Probable Number technique is used by the Ontario Department of Health to obtain an approximation of the actual number of coliform organisms present. These organisms are the normal inhabitants of the intestines of man and other warm-blooded animals. They are always present in large numbers in untreated sewage and are, in general, relatively few in number in other stream pollutants.

Biochemical Oxygen Demand (BOD) - The biochemical oxygen demand test indicates the amount of oxygen required for stabilization of the decomposable organic matter found in sewage, sewage effluent, polluted waters, or industrial wastes, by aerobic biochemical action. The time and temperature used are 5 days and 20 °C, respectively.

Solids - The analyses for solids include tests for total, suspended and dissolved solids. The total solids is a measure of the solids in solution and in suspension. Suspended solids indicate the measure of undissolved solids of organic or inorganic nature whereas the dissolved solids are a measure of those solids in solution.

Oils and Ether Soluble Materials - These include oils and all other ether soluble materials such as tarry substances and greases. The presence of these pollutants renders water difficult and sometimes impractical to treat either for industrial or domestic use. Oils make streams unsightly and water unfit for bathing.

Phenolic Compounds - Phenols react with chlorine to produce intensely aromatic compounds. These compounds, even when highly diluted, may give a taste and odour to the water which is variously described as medicinal, chemical or iodoform. Phenols taint fish and are toxic to fish, depending on the concentration. Normal water contains no phenolic compounds.

Alkyl Benzene Sulfonate (ABS) - The alkyl benzene sulfonate portion of the anionic detergents is reported in ppm. The test is

generally employed to indicate the presence of domestic wastewater.

The popular use of synthetic detergent for general cleaning purposes has resulted in the incidence of residual ABS in streams. As an objective, the ABS concentration should not exceed 0.5 ppm in water used for domestic purposes.

# COMMUNITIES OF ANSONVILLE AND MONTROCK

## TOWNSHIP OF CALVERT

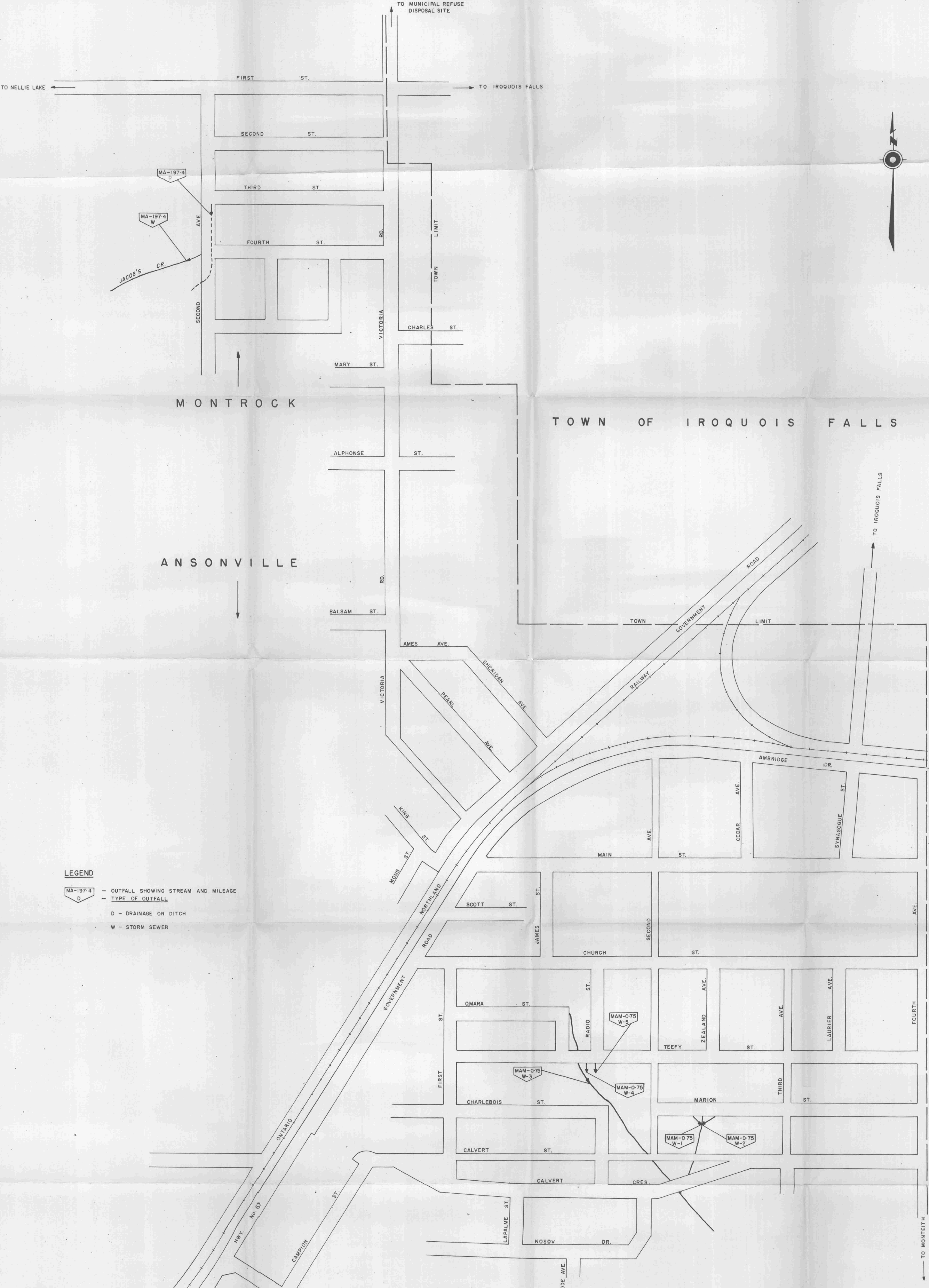
TABLE I

SAMPLING POINT No.	DESCRIPTION	DATE	5-DAY BOD (PPM)	SOLIDS		DISS. (PPM)	ANIONIC DETERGENTS AS ABS (PPM)	MPN		REMARKS
				TOTAL (PPM)	SUSP. (PPM)			TOTAL COLIFORM ORGANISMS PER 100 C.C.	FAECAL COLIFORM ORGANISMS PER 100 C.C.	
MAM-0.75 W1	18-INCH DIAMETER C.I. STORM SEWER SOUTH OF MARION ST. (ANSONVILLE).	SEPT.23/66	3.6	588	14	574	0.1	2,400	43	
MAM-0.75 W2	24-INCH DIAMETER C.I. STORM SEWER SOUTH OF MARION ST. (ANSONVILLE).	SEPT.23/66	2.0	746	41	705	0.0	1,100	0	
MAM-0.75 W3	36-INCH DIAMETER CON- CRETE STORM SEWER AT TEEFY AND RADIO STS. (ANSONVILLE).	SEPT.23/66	2.4	302	2	300	0.1	15,000	2,400	
MAM-0.75 W4	18-INCH DIAMETER C.I. STORM SEWER AT TEEFY AND RADIO STS. (ANSONVILLE).	SEPT.23/66	NO FLOW NOTED							
MAM-0.75 W5	10-INCH DIAMETER CON- CRETE STORM SEWER AT TEEFY AND RADIO STS. (ANSONVILLE).	SEPT.23/66	NO FLOW NOTED							
MA-200.0	ABITIBI RIVER UPSTREAM FROM ABITIBI PAPER MILL DAM.	SEPT.21/66	1.8	102	7	95		93	9.1	



TABLE I (CONT'D)

SAMPLING POINT No.	DESCRIPTION	DATE	5-DAY BOD (PPM)	SOLIDS			ANIONIC DETERGENTS AS ABS (PPM)	MPN		REMARKS
				TOTAL (PPM)	SUSP. (PPM)	DISS. (PPM)		TOTAL COLIFORM ORGANISMS PER 100 C.C.	FAECAL COLIFORM ORGANISMS PER 100 C.C.	
MA-199.9 S, 1-4	ANSONVILLE SANITARY SEWER AT ABITIBI PAPER MILL.	SEPT.21/66	150	1196	1010	186		24,000,000	240,000	EFFLUENT ALSO CONTAINS WASTES FROM GROUND-WOOD MILL.
MA-198.8 S	DITCH CONTAINING SANI- TARY WASTES FROM MONTROCK AND PART OF IROQUOIS FALLS.	SEPT.21/66	70	574	112	462		24,000,000	24,000,000	
MA-198.6	ABITIBI RIVER DOWN- STREAM FROM DAM AT BRIDGE TO TWIN FALLS.	SEPT.21/66	0.8	122	12	110		24,000	1,500	
MA-197.4 W	24-INCH DIAMETER CON- CRETE STORM SEWER AT SECOND AVENUE AND FOURTH ST. (MONTROCK).	SEPT.23/66	2.8	290	14	176	0.2	230,000	24,000	
MA-197.4 D	OPEN DITCH AT SECOND AVENUE AND THIRD ST. (MONTROCK).	SEPT.23/66	1.4	446	2	444	0.0	24,000	0	



**LEGEND**

MA-197-4  
D - OUTFALL SHOWING STREAM AND MILEAGE  
W - TYPE OF OUTFALL  
D - DRAINAGE OR DITCH  
W - STORM SEWER